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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,567	03/31/2004	Bobby Hu	CFP-2105 (20040095.ORI)	6887
23595	7590	08/11/2005	EXAMINER	
NIKOLAI & MERSEREAU, P.A. 900 SECOND AVENUE SOUTH SUITE 820 MINNEAPOLIS, MN 55402			MULLER, BRYAN R	
			ART UNIT	PAPER NUMBER
			3723	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/814,567

Applicant(s)

HU, BOBBY

Examiner

Bryan R. Muller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 1 and 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The abstract of the disclosure is objected to because the second sentence starting on line 5 states that teeth are formed on a toothed side thereof. The previous sentence lists several different parts in the reversible wrench and it is unclear which of these parts is being referred to in the second sentence as having the teeth are formed on a toothed side thereof. Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

2. Claim 1 is objected to because of the following informalities: line 12 of claim 1 refers to the second ratcheting position of the wrench, but in lines 10 and 11 refers to the first ratcheting direction of the wrench. It is assumed that the word "position" in line 12 was intended to be "direction". Appropriate correction is required.

3. Claim 2 is objected to because of the following informalities: line 2 of claim 2 discloses the hole of the handle but claim 1 discloses that the hole is in the head not the handle, please change the word "handle" to "head" in line 2 of claim 2. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Arnold et al (US Pub. 2004/0083860).

6. In reference to claim 1, Arnold discloses a reversible ratcheting wrench comprising a handle (12) including a head (14), the head including a hole (16) delimited by an inner periphery, a compartment (18) being defined in the inner periphery delimiting the hole and communicated with the hole, a drive member (48 and 316 of Figure 15D) rotatably received in the hole of the head, a plurality of teeth (52 and 328 of Figure 15D) being provided on an outer periphery of the drive member and having a radius of curvature, and a pawl (94) received in the compartment of the handle, the pawl being slidable between a first ratcheting position (figure 4A) corresponding to a first ratcheting direction of the wrench and a second ratcheting position (figure 4C) corresponding to a second ratcheting *direction* of the wrench that is opposite to the first ratcheting direction, the pawl including a plurality of teeth (102) on a toothed side thereof, the teeth of the pawl having a radius of curvature larger than that of the teeth of

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the drive member (paragraph 62), wherein when the pawl is in the first ratcheting position, a portion of the teeth of the pawl engages with the teeth of the drive member while another portion of the teeth of the pawl disengages from the teeth of the drive member, leaving a gap between said another portion of the pawl and the teeth of the drive member and wherein when the pawl is in the second ratcheting position, said another portion of the teeth of the pawl engages with the teeth of the drive member while the portion of the teeth of the pawl disengages from the teeth of the drive member, leaving a gap between the portion of the pawl and the teeth of the drive member.

7. In reference to claim 2, Arnold further discloses that an annular groove (best seen as 330 in figure 15D) is defined in the inner periphery delimiting the hole of the handle, the outer periphery of the drive member having an annular groove (best seen as 346 in figure 15D) defined therein, further including a retainer (348) partially received in the annular groove of the handle and partially received in the annular groove of the drive member, thereby rotatably mounting the drive member in the hole of the handle.

8. In reference to claim 3, Arnold further discloses that the pawl includes two abutting faces selectively abutting against an associated one of two wall portions delimiting the compartment of the handle.

9. In reference to claim 4, Arnold further discloses that the wrench comprises a switching means (figure 10) for moving the pawl between the first ratcheting position and the second ratcheting position.

10. In reference to claim 5, Arnold further discloses that the switching means includes a body (122) rotatably received in the handle and a turn piece (124) formed on

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an end of the body and outside the handle for manual operation, the body including a receptacle (134), the switching means further including an elastic element (136) and a pressing member (138), the elastic element having a first end received in the receptacle of the body and a second end for biasing the pressing member against the pawl, the pawl being moved between the first ratcheting position and the second ratcheting position when the turn piece is manually turned.

11. In reference to claim 6, Arnold further discloses that the pawl includes another side opposite to the toothed side, said another side of the pawl including a recess (104) for receiving an end of the pressing member.

12. In reference to claim 7, Arnold further discloses that the pressing member includes a receptacle (14) for receiving the second end of the elastic element.

13. In reference to claim 8, Arnold further discloses that the handle includes a mounting hole (24) communicated with the compartment, and wherein the body is rotatably mounted in the mounting hole of the handle.

### ***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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15. Claims 1-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Hu (6,282,992) in view of Main (4,807,500).

16. In reference to claim 1, Hu discloses a reversible ratcheting wrench comprising a handle (12) including a head (11), the head including a hole (13) delimited by an inner periphery, a compartment (14) being defined in the inner periphery delimiting the hole and communicated with the hole, a drive member (25) rotatably received in the hole of the head, a plurality of teeth (21) being provided on an outer periphery of the drive member and having a radius of curvature, and a pawl (40) received in the compartment of the handle, the pawl being slidable between a first ratcheting position (figure 3) corresponding to a first ratcheting direction of the wrench and a second ratcheting position (figure 5) corresponding to a second ratcheting *direction* of the wrench that is opposite to the first ratcheting direction, the pawl including a plurality of teeth (41) on a toothed side thereof, wherein when the pawl is in the first ratcheting position, a portion of the teeth of the pawl engages with the teeth of the drive member while another portion of the teeth of the pawl disengages from the teeth of the drive member, leaving a gap between said another portion of the pawl and the teeth of the drive member and wherein when the pawl is in the second ratcheting position, said another portion of the teeth of the pawl engages with the teeth of the drive member while the portion of the teeth of the pawl disengages from the teeth of the drive member, leaving a gap between the portion of the pawl and the teeth of the drive member. Hu, however fails to disclose that the teeth of the pawl have a radius of curvature larger than that of the teeth of the drive member. Main discloses a reversing ratchet wrench wherein the pawl (10) is

located inside of the drive member (12) such that the teeth on the teethed surface of the pawl are on an outer surface of the pawl relative to the axis of rotation of the wrench and the teeth on the drive member are on an inner portion of the drive member relative to the axis of rotation of the wrench. Main further discloses that the teeth of the pawl and the teeth of the drive member both have radii of curvature and that the radius of curvature of the teeth of the drive member is larger than the radius of curvature of the teeth of the pawl (col. 5, lines 14-16) and further teaches that the configuration of the provide increased mechanical strength, substantially eliminates shear forces on the ratcheting pawl so that the pawl is predominately placed under compression forces for increased mechanical strength making the ratchet mechanism less susceptible to breakage (col. 2, lines 23-35). The wrench assembly of Hu differs from Main in that the pawl is located outside the drive member and has teeth on an inner portion of the pawl relative to the axis of rotation of the wrench and the drive member of Hu has teeth on an outer portion of the drive member relative to the axis of rotation of the wrench.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to make the wrench of Hu such that the radius of curvature for the teeth on the pawl was greater than the radius of curvature for the teeth on the drive member. This would provide the same interaction between inner and outer teeth as that disclosed by Main that increases mechanical strength, substantially eliminates shear forces on the ratcheting pawl so that the pawl is predominately placed under compression forces for increased mechanical strength making the ratchet mechanism less susceptible to breakage.



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17. In reference to claim 2, Hu further discloses that an annular groove (131) is defined in the inner periphery delimiting the hole of the handle, the outer periphery of the drive member having an annular groove (231) defined therein, further including a retainer (30) partially received in the annular groove of the handle and partially received in the annular groove of the drive member, thereby rotatably mounting the drive member in the hole of the handle.

18. In reference to claim 3, Hu further discloses that the pawl includes two abutting faces (43 and 44) selectively abutting against an associated one of two wall portions delimiting the compartment of the handle.

19. In reference to claim 4, Hu further discloses that the wrench comprises a switching means (50 and 60) for moving the pawl between the first ratcheting position and the second ratcheting position.

20. In reference to claim 5, Hu further discloses that the switching means includes a body (52) rotatably received in the handle and a turn piece (51) formed on an end of the body and outside the handle for manual operation, the body including a receptacle (521), the switching means further including an elastic element (62) and a pressing member (61), the elastic element having a first end received in the receptacle of the body and a second end for biasing the pressing member against the pawl, the pawl being moved between the first ratcheting position and the second ratcheting position when the turn piece is manually turned.

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21. In reference to claim 6, Hu further discloses that the pawl includes another side opposite to the toothed side, said another side of the pawl including a recess (422) for receiving an end of the pressing member.

22. In reference to claim 7, Hu further discloses that the pressing member includes a receptacle (911 in figures 8 and 9) for receiving the second end of the elastic element.

23. In reference to claim 8, Hu further discloses that the handle includes a mounting hole (15) communicated with the compartment, and wherein the body is rotatably mounted in the mounting hole of the handle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan R. Muller whose telephone number is (571) 272-4489. The examiner can normally be reached on Monday thru Thursday and second Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail III can be reached on (571) 272-4485. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BRM BRM  
7/28/2005



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